

Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

43-64. (cancelled)

65. (new) A nucleic acid ladder comprising a plurality of nucleic acid fragments that exhibit substantially equal intensity after said ladder is separated by gel electrophoresis and stained with a detectable label, wherein said plurality comprises at least two fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least two fragments having a molecular weight less than 1kb.

66. (new) The nucleic acid ladder of claim 65, wherein said plurality ranges in molecular weight from about 4kb to about 500bp.

67. (new) The nucleic acid ladder of claim 65, wherein said plurality ranges in molecular weight from about 5kb to about 400bp.

68. (new) The nucleic acid ladder of claim 65, wherein said plurality ranges in molecular weight from about 5kb to about 300bp.

69. (new) The nucleic acid ladder of claim 65, wherein said plurality ranges in molecular weight from about 5kb to about 200bp.

70. (new) The nucleic acid ladder of claim 65, wherein said plurality ranges in molecular weight from about 5kb to about 100bp.

71. (new) The nucleic acid ladder of claim 65, wherein said plurality ranges in molecular weight from about 10kb to about 400bp.

72. (new) The nucleic acid ladder of claim 65, wherein said plurality ranges in molecular weight from about 8kb to about 400bp.

73. (new) The nucleic acid ladder of claim 65, wherein said plurality ranges in molecular weight from about 6kb to about 400bp.

74. (new) The nucleic acid ladder of claim 65, wherein said plurality comprises at least 3 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 3 fragments having a molecular weight less than 1kb.

75. (new) The nucleic acid ladder of claim 65, wherein said plurality comprises at least 3 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 4 fragments having a molecular weight less than 1kb.

76. (new) The nucleic acid ladder of claim 65, wherein said plurality comprises at least 3 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 5 fragments having a molecular weight less than 1kb.

77. (new) The nucleic acid ladder of claim 65, wherein said plurality comprises at least 4 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 3 fragments having a molecular weight less than 1kb.

78. (new) The nucleic acid ladder of claim 65, wherein said plurality comprises at least 5 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 3 fragments having a molecular weight less than 1kb.

79. (new) The nucleic acid ladder of claim 65, wherein said plurality comprises at least 4 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 4 fragments having a molecular weight less than 1kb.

80. (new) The nucleic acid ladder of claim 65, wherein said plurality comprises at least 5 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 5 fragments having a molecular weight less than 1kb.

81. (new) The nucleic acid ladder of claim 65, wherein said detectable label is ethidium bromide.

82. (new) The nucleic acid ladder of claim 65, wherein said detectable label is SYBR green.

83. (new) The nucleic acid ladder of claim 65, further comprising a dye.

84. (new) The nucleic acid ladder of claim 83, wherein said dye is selected from the group consisting of bromophenol blue, xylene green, and mixtures thereof.

85. (new) A nucleic acid ladder comprising a plurality of nucleic acid fragments having substantially equal relative mass, wherein said plurality comprises at least two fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least two fragments smaller having a molecular weight less than 1kb.

86. (new) The nucleic acid ladder of claim 85, wherein said plurality ranges in molecular weight from about 4kb to about 500bp.

87. (new) The nucleic acid ladder of claim 85, wherein said plurality ranges in molecular weight from about 5kb to about 400bp.

88. (new) The nucleic acid ladder of claim 85, wherein said plurality ranges in molecular weight from about 5kb to about 300bp.

89. (new) The nucleic acid ladder of claim 85, wherein said plurality ranges in molecular weight from about 5kb to about 200bp.

90. (new) The nucleic acid ladder of claim 85, wherein said plurality ranges in molecular weight from about 5kb to about 100bp.

91. (new) The nucleic acid ladder of claim 85, wherein said plurality ranges in molecular weight from about 10kb to about 400bp.

92. (new) The nucleic acid ladder of claim 85, wherein said plurality ranges in molecular weight from about 8kb to about 400bp.

93. (new) The nucleic acid ladder of claim 85, wherein said plurality ranges in molecular weight from about 6kb to about 400bp.

94. (new) The nucleic acid ladder of claim 85, wherein said plurality comprises at least 3 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 3 fragments having a molecular weight less than 1kb.

95. (new) The nucleic acid ladder of claim 85, wherein said plurality comprises at least 3 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 4 fragments having a molecular weight less than 1kb.

96. (new) The nucleic acid ladder of claim 85, wherein said plurality comprises at least 3 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 5 fragments having a molecular weight less than 1kb.

97. (new) The nucleic acid ladder of claim 85, wherein said plurality comprises at least 4 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 3 fragments having a molecular weight less than 1kb.

98. (new) The nucleic acid ladder of claim 85, wherein said plurality comprises at least 5 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 3 fragments having a molecular weight less than 1kb.

99. (new) The nucleic acid ladder of claim 85, wherein said plurality comprises at least 4 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 4 fragments having a molecular weight less than 1kb.

100. (new) The nucleic acid ladder of claim 85, wherein said plurality comprises at least 5 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 5 fragments having a molecular weight less than 1kb.

101. (new) The nucleic acid ladder of claim 85, wherein said detectable label is ethidium bromide.

102. (new) The nucleic acid ladder of claim 85, wherein said detectable label is SYBR green.

103. (new) The nucleic acid ladder of claim 85, further comprising a dye.

104. (new) The nucleic acid ladder of claim 103, wherein said dye is selected from the group consisting of bromophenol blue, xylene green, and mixtures thereof.

105. (new) A nucleic acid ladder comprising a plurality of nucleic acid fragments, wherein the copy number of said fragments is such that the mass of said fragments is substantially equivalent, wherein said plurality comprises at least two fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least two fragments smaller having a molecular weight less than 1kb.

106. (new) The nucleic acid ladder of claim 105, wherein said plurality ranges in molecular weight from about 4kb to about 500bp.

107. (new) The nucleic acid ladder of claim 105, wherein said plurality ranges in molecular weight from about 5kb to about 400bp.

108. (new) The nucleic acid ladder of claim 105, wherein said plurality ranges in molecular weight from about 5kb to about 300bp.

109. (new) The nucleic acid ladder of claim 105, wherein said plurality ranges in molecular weight from about 5kb to about 200bp.

110. (new) The nucleic acid ladder of claim 105, wherein said plurality ranges in molecular weight from about 5kb to about 100bp.

111. (new) The nucleic acid ladder of claim 105, wherein said plurality ranges in molecular weight from about 10kb to about 400bp.

112. (new) The nucleic acid ladder of claim 105, wherein said plurality ranges in molecular weight from about 8kb to about 400bp.

113. (new) The nucleic acid ladder of claim 105, wherein said plurality ranges in molecular weight from about 6kb to about 400bp.

114. (new) The nucleic acid ladder of claim 105, wherein said plurality comprises at least 3 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 3 fragments having a molecular weight less than 1kb.

115. (new) The nucleic acid ladder of claim 105, wherein said plurality comprises at least 3 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 4 fragments having a molecular weight less than 1kb.

116. (new) The nucleic acid ladder of claim 105, wherein said plurality comprises at least 3 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 5 fragments having a molecular weight less than 1kb.

117. (new) The nucleic acid ladder of claim 105, wherein said plurality comprises at least 4 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 3 fragments having a molecular weight less than 1kb.

118. (new) The nucleic acid ladder of claim 105, wherein said plurality comprises at least 5 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 3 fragments having a molecular weight less than 1kb.

119. (new) The nucleic acid ladder of claim 105, wherein said plurality comprises at least 4 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 4 fragments having a molecular weight less than 1kb.

120. (new) The nucleic acid ladder of claim 105, wherein said plurality comprises at least 5 fragments having a molecular weight greater than 1kb, and wherein said plurality comprises at least 5 fragments having a molecular weight less than 1kb.

121. (new) The nucleic acid ladder of claim 105, wherein said detectable label is ethidium bromide.

122. (new) The nucleic acid ladder of claim 105, wherein said detectable label is SYBR green.

123. (new) The nucleic acid ladder of claim 105, further comprising a dye.

124. (new) The nucleic acid ladder of claim 123, wherein said dye is selected from the group consisting of bromophenol blue, xylene green, and mixtures thereof.

125. (new) The nucleic acid ladder of claim 85, wherein the relative mass of each fragment of said plurality is no more than 3 times the relative mass of any other fragment of said plurality.

126. (new) The nucleic acid ladder of claim 85, wherein the relative mass of each fragment of said plurality is no more than 2.5 times the relative mass of any other fragment of said plurality.

127. (new) The nucleic acid ladder of claim 85, wherein the relative mass of each fragment of said plurality is no more than 2 times the relative mass of any other fragment of said plurality.

128. (new) The nucleic acid ladder of claim 85, wherein the relative mass of each fragment of said plurality is no more than 1 times the relative mass of any other fragment of said plurality.

129. (new) The nucleic acid ladder of claim 85, wherein the relative mass of each fragment of said plurality is about the same.

130. (new) The nucleic acid ladder of claim 65, wherein each fragment of said plurality exhibits an intensity no more than 3 times the intensity of any other fragment of said plurality.

131. (new) The nucleic acid ladder of claim 65, wherein each fragment of said plurality exhibits an intensity no more than 2.5 times the intensity of any other fragment of said plurality.

132. (new) The nucleic acid ladder of claim 65, wherein each fragment of said plurality exhibits an intensity no more than 2 times the intensity of any other fragment of said plurality.

133. (new) The nucleic acid ladder of claim 65, wherein each fragment of said plurality exhibits an intensity no more than 1.5 times the intensity of any other fragment of said plurality.

134. (new) The nucleic acid ladder of claim 65, wherein each fragment of said plurality exhibits about the same intensity.

135. (new) The nucleic acid ladder of claim 105, wherein the copy number of each fragment of said plurality is such that the mass of each fragment is no more than 3 times the mass of any other fragment of said plurality.

136. (new) The nucleic acid ladder of claim 105, wherein the copy number of each fragment of said plurality is such that the mass of each fragment is no more than 2.5 times the mass of any other fragment of said plurality.

137. (new) The nucleic acid ladder of claim 105, wherein the copy number of each fragment of said plurality is such that the mass of each fragment is no more than 2 times the mass of any other fragment of said plurality.

138. (new) The nucleic acid ladder of claim 105, wherein the copy number of each fragment of said plurality is such that the mass of each fragment is no more than 1.5 times the mass of any other fragment of said plurality.

139. (new) The nucleic acid ladder of claim 105, wherein the copy number of each fragment of said plurality is such that the mass of each fragment of said plurality is about the same.